

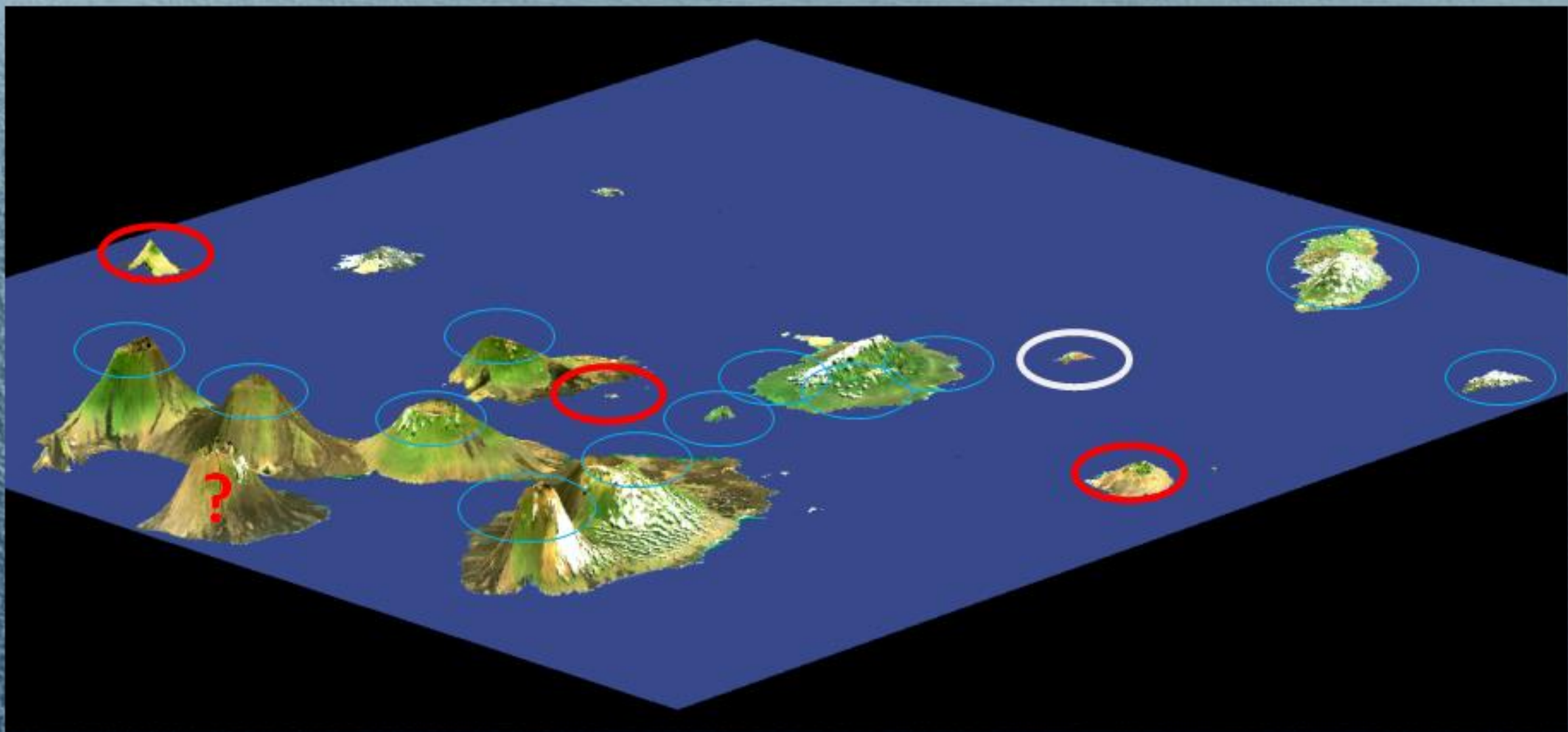


A decision-making activity to guide archipelago-wide rewilding of Galapagos giant tortoises

James Gibbs, Giorgos Mountrakis, Atef Amriche, Gillian Avruskin

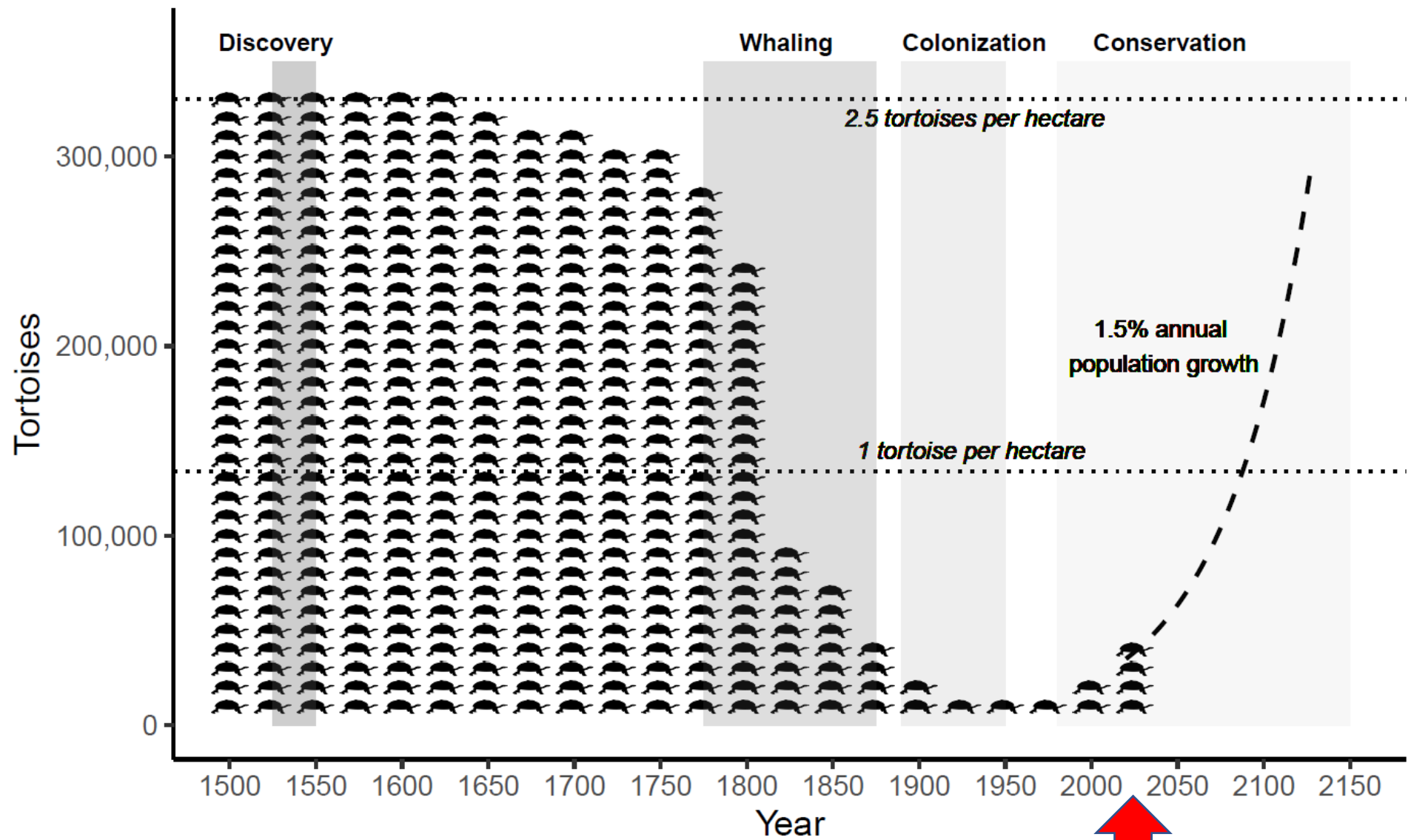
State University of New York College of Environmental Science & Forestry, Syracuse, NY







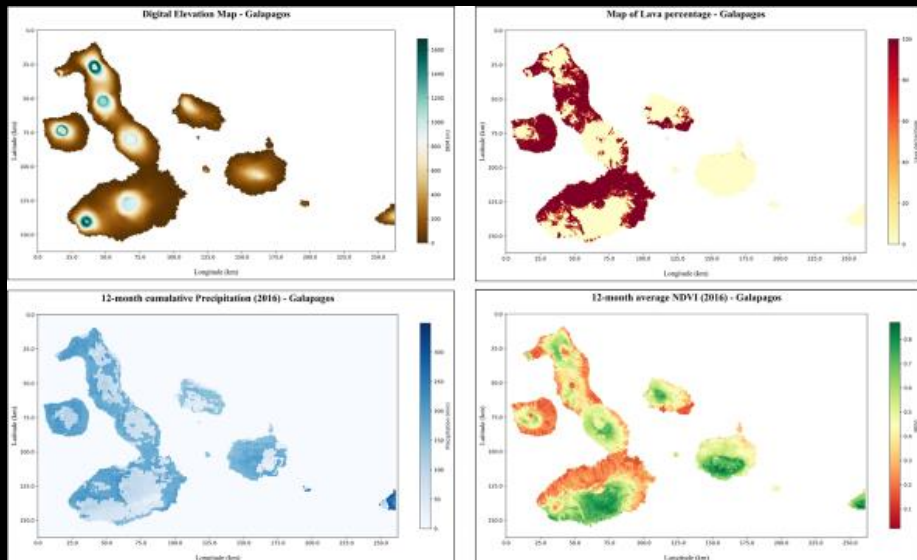




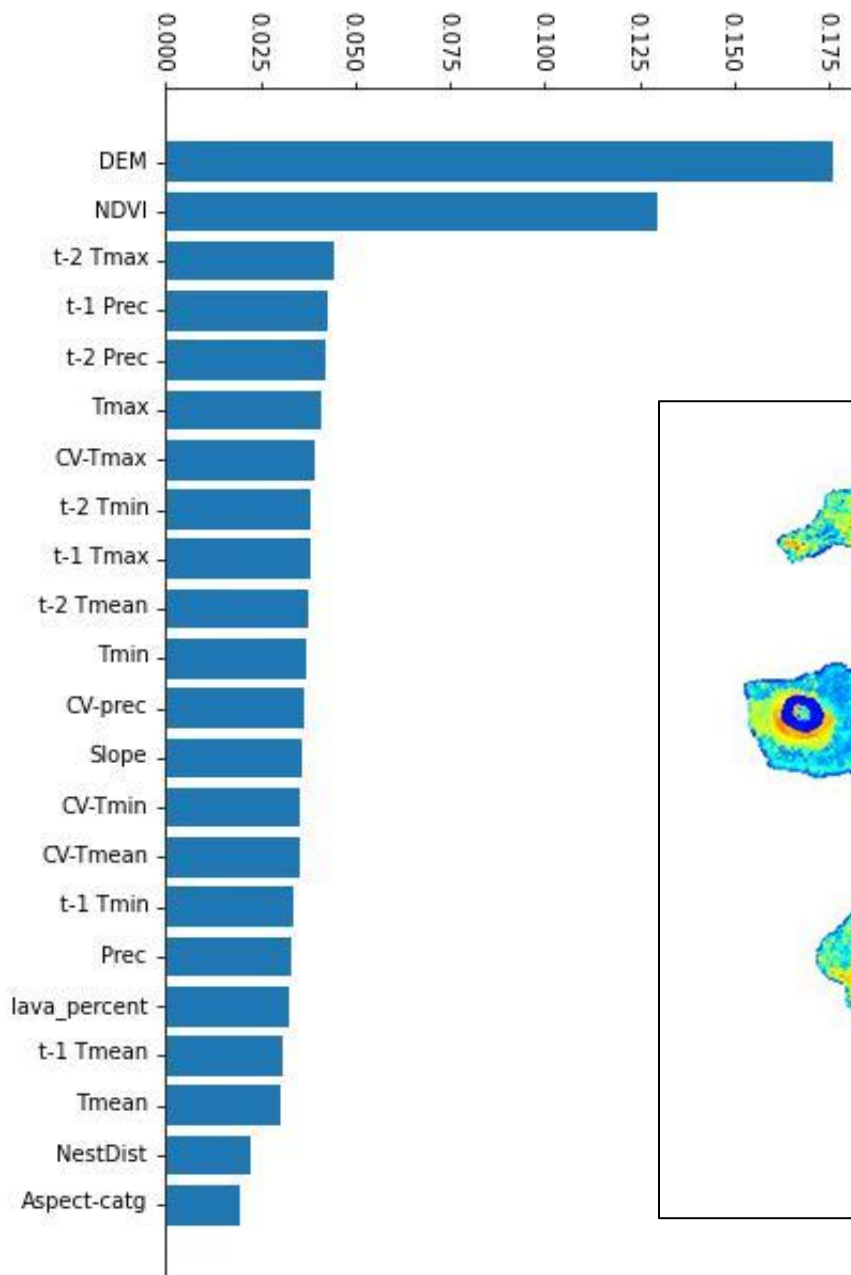
WHERE TO REWILD?

Tortoise niche prediction

- > 5M field observations of tortoise occurrence
- Satellite-derived Earth observations

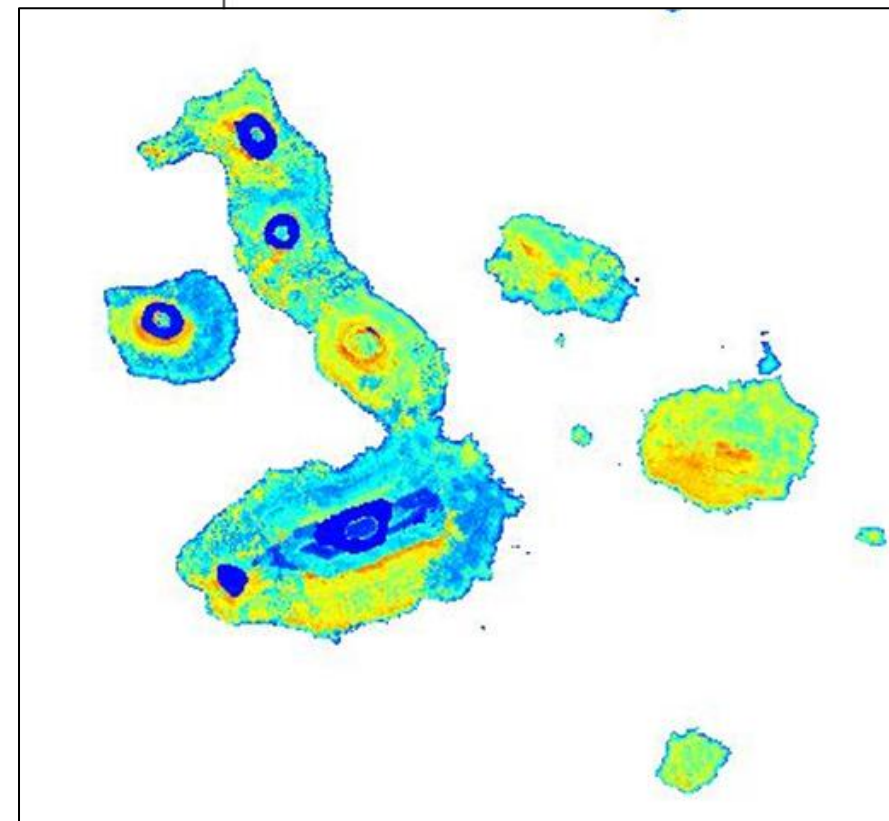


Random Forest classifier

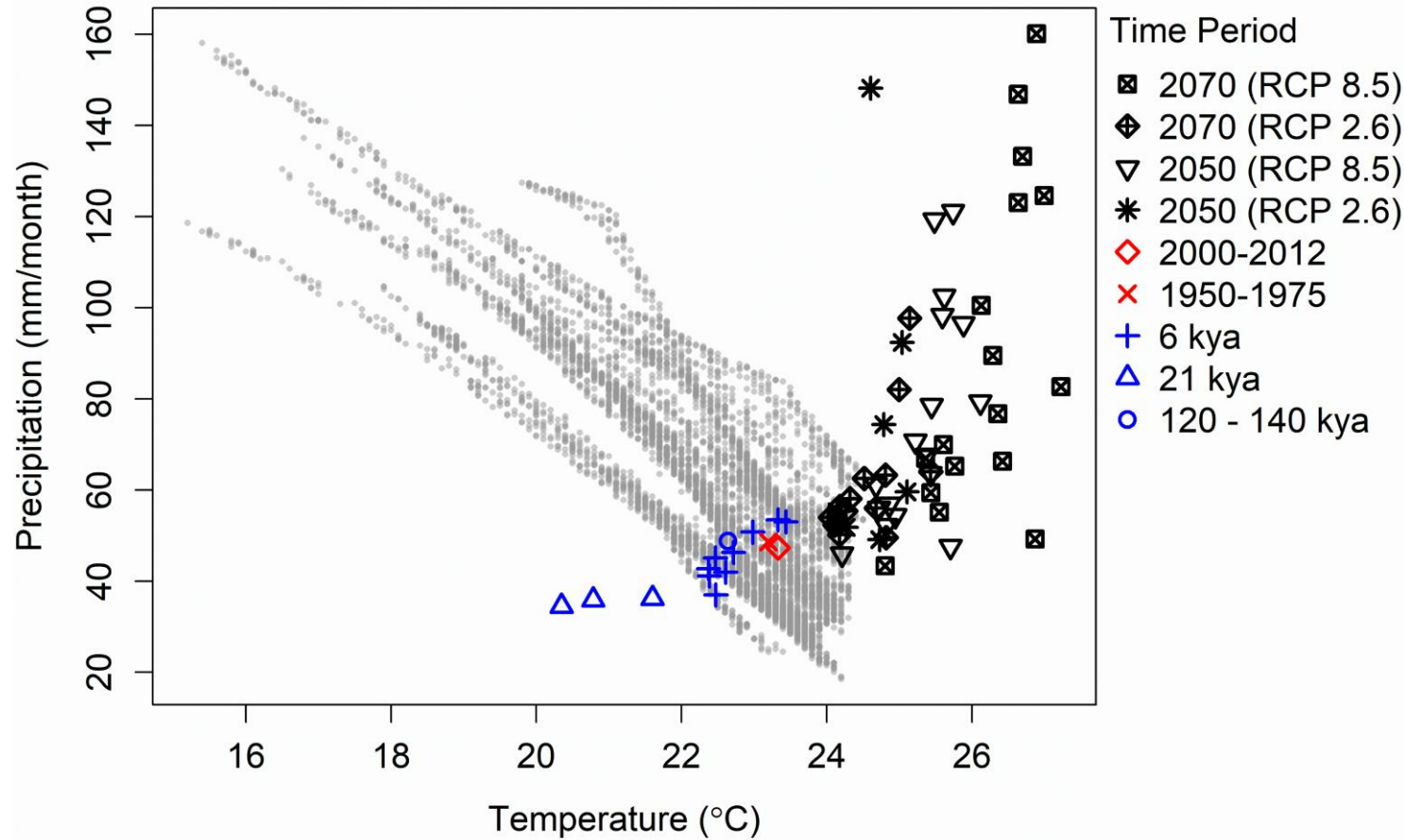


Overall
Accuracy

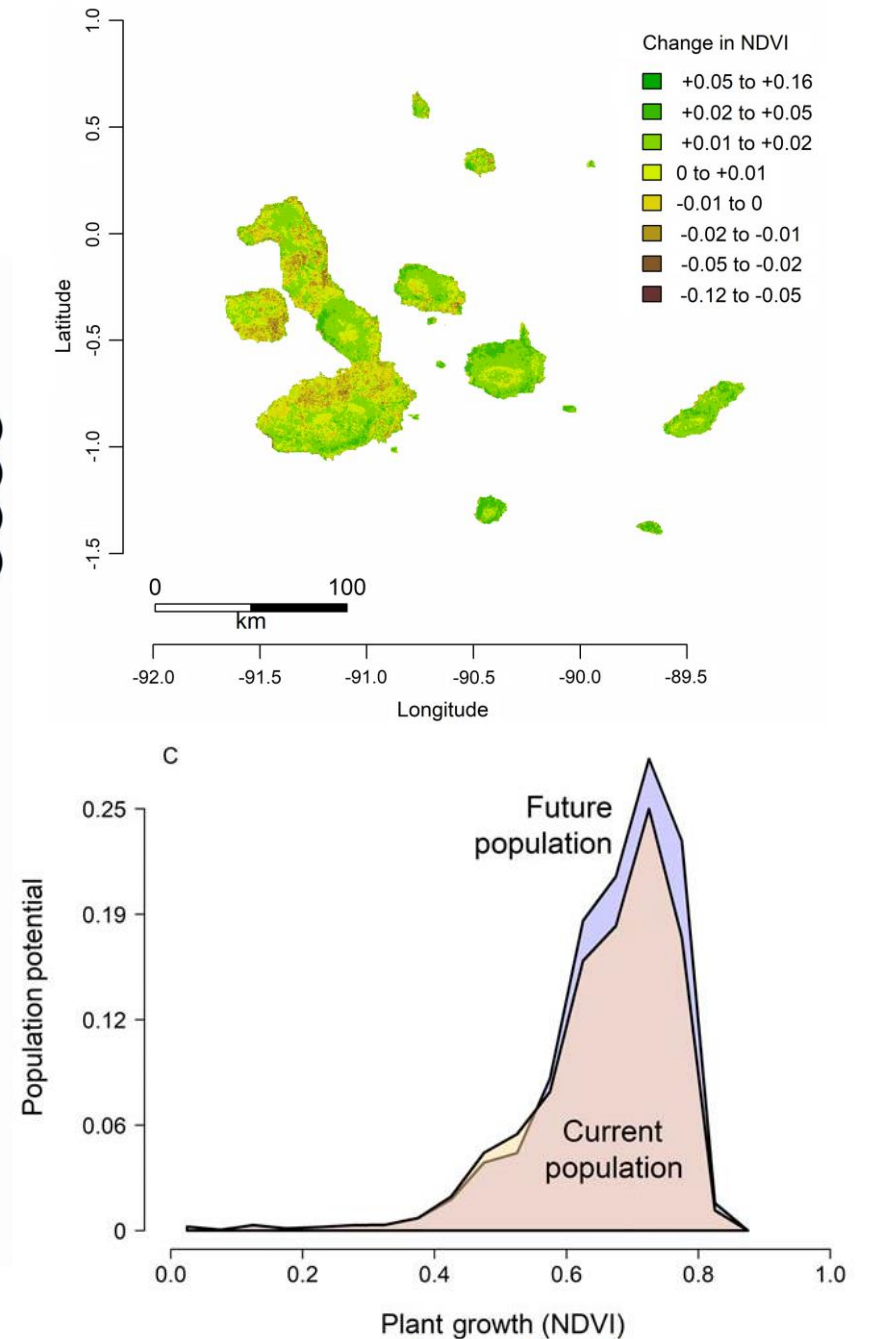
97.4%



INTO WHAT FUTURE?

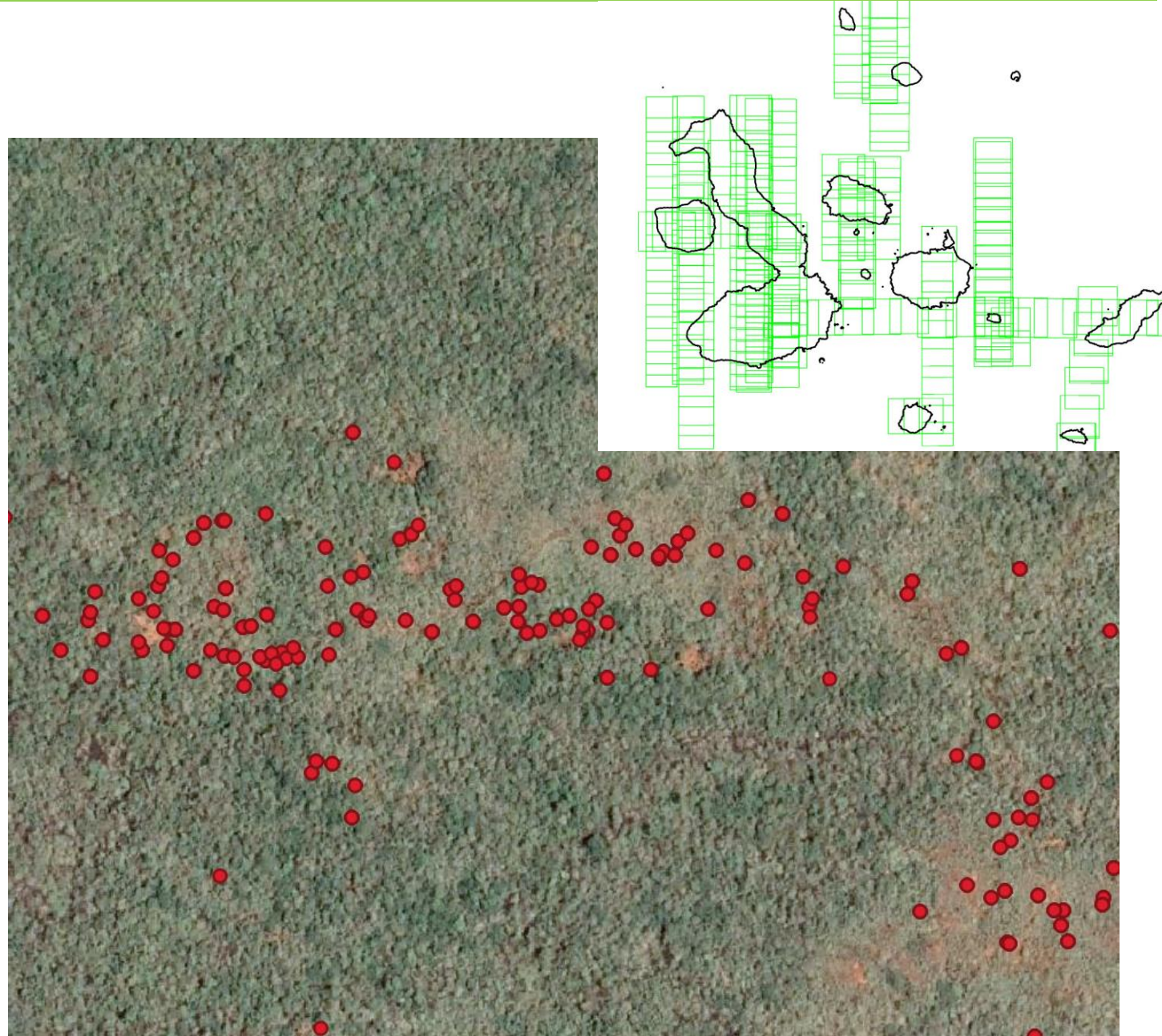
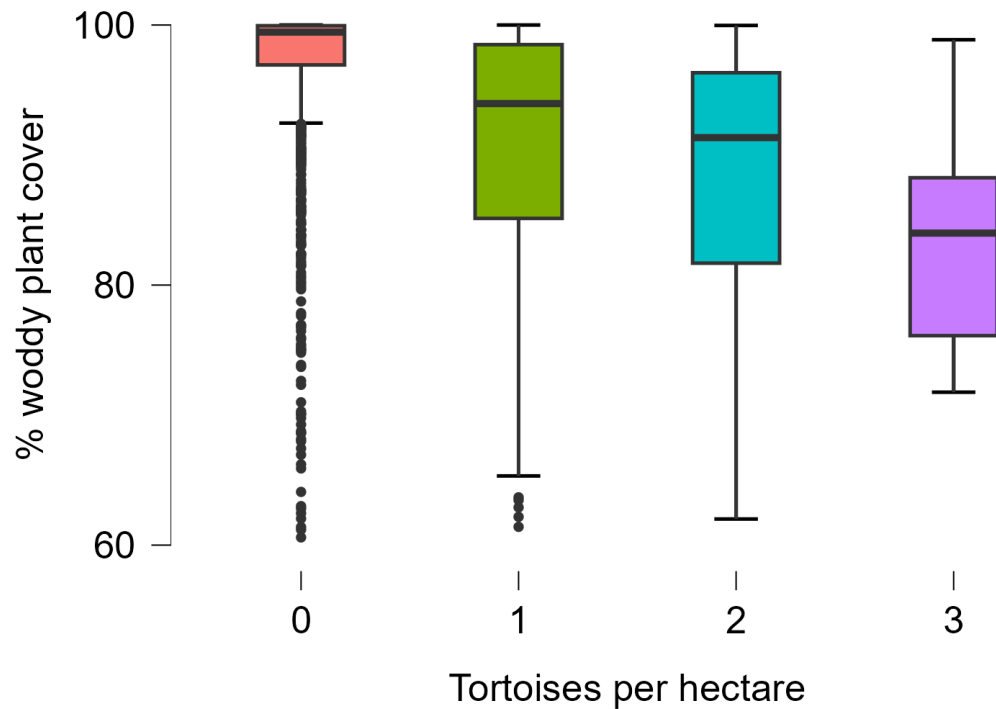


Extending work of Charney et al. 2021



TO WHAT EFFECT? *Tortoise impacts on vegetation*

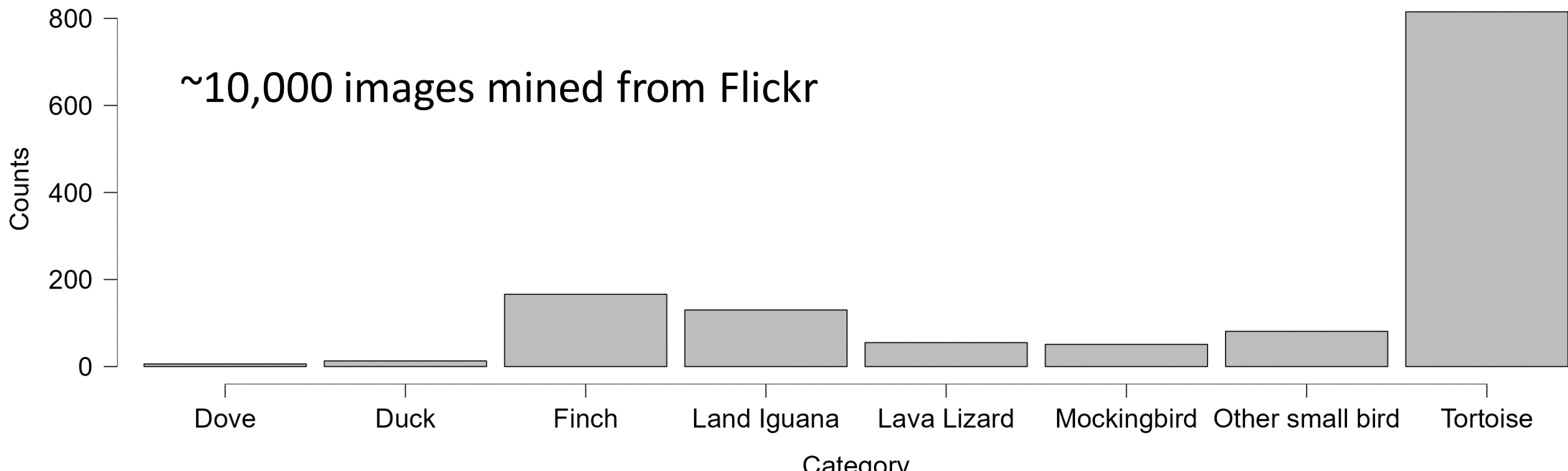
- > 5M field observations of tortoise occurrence
- 120 high resolution WV3 & Quickbird images from CSDA Program



Secondary effects on wildlife of tortoise impacts on vegetation



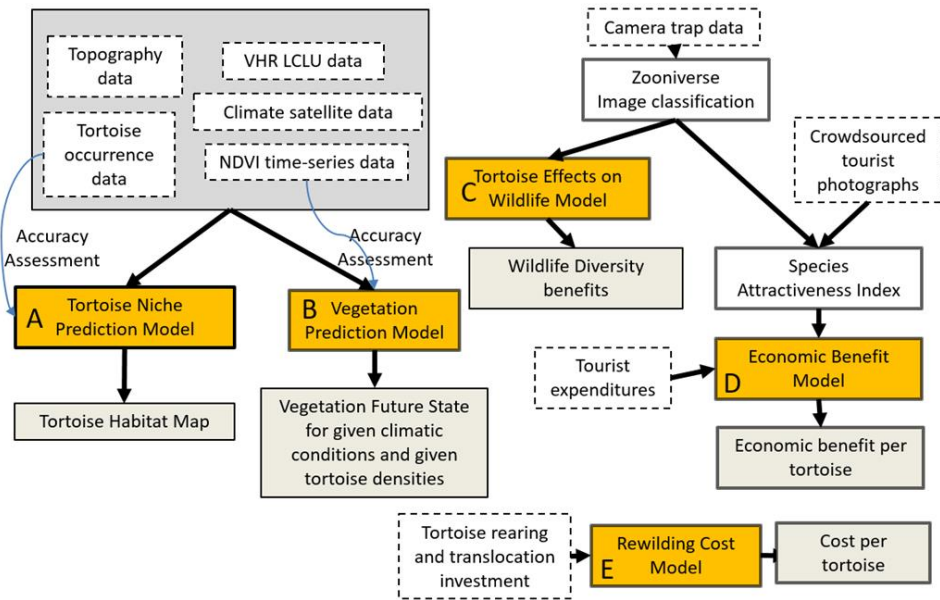
Economic impact of tortoises on biodiversity



Integrating with management

- 10 year plan of Galapagos National Park
- Rewilding costs
- Economic benefit
- Competing management priorities
- Volatile budget





International Workshop: *Initiativa Galápagos: Blue-print for tortoise restoration 2025-2050* 2024 - Puerto Ayora, Galapagos



EARTH SCIENCE
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